H
W N
Wagner, Heindel, and Noyes, Inc. consulting geologists
P.O. Box 1629 Burlington, Vermont 05402-1629 802-658-0820

August 8, 1991

Mr. William Simendinger
Wesco, Inc.
P.O. Box 1485
Burlington, VT 05402

RE: Railroad Street Texaco, St. Johnsbury, VT
Spring 1991 Water Quality Sampling

Dear Bill:

Please find enclosed groundwater quality reports and PID volatile organic vapor measurements from the Railroad Street Texaco station site in St. Johnsbury, VT. Based on this information, we offer the following report.

Water quality samples were collected on May 3, 1991, concurrent with the period of seasonal high water table. At the direction of Chuck Schwer (Agency of Natural Resources, Sites Management Section, pers. comm., March 27, 1991) headspace vapor measurements (utilizing an H-Nu photoionizing detector with an 11.7 eV probe placed in the monitor well) were made in wells were there was insufficient fluids for water quality sampling.

Prior to developing the wells for sampling, each well was measured for depth to water, checked for free product and screened for volatile organic vapors. These measurements are tabulated below.

WELL	DEPTH TO WATER	FREE PRODUCT	PID READING
MW-1	14.35'	None Detected	2.0 ppm
MW-2	15.18'	None Detected	3.2 ppm
MW-3	Dry	None Detected	3.5 ppm

PID soil vapor readings taken on January 12, 1990 during the installation of these monitor wells were several orders of magnitude higher than the vapor levels recorded on May 3, 1990, signifying a general decline in volatile organic vapor concentrations in the subsoil. PID testing in the interior of the building and in soil pipes at the back of the building did not yield any detectable concentrations of volatile organic compounds. Additionally, PID testing of the two stormwater catch basins adjacent to the property did not detect any volatile organic compounds.

No petroleum sheens or discernable odors were noted during the development of monitor wells MW-1 and MW-2. Post-sampling PID vapor level measurements taken in these wells did not detect any appreciable change in well-bore volatile organic vapor levels.

Groundwater samples recovered from wells MW-1 and MW-2 were analyzed via EPA Method 602 (see attached Laboratory Reports). The results of these laboratory analyses and the water quality results from the last (February 2, 1990) sampling round are summarized as follows:

STATION	PARAMETER	5/3/91	2/2/90
MW-1	Benzene	1,120 ppb	3,240 ppb
	Ethylbenzene	462 ppb	3,060 ppb
	Toluene	4,210 ppb	12,200 ppb
	Xylene	3,500 ppb	23,800 ppb
	MTBE	25,300 ppb	22,000 ppb
MW-2	Benzene	4.51 ppb	17.2 ppb
	Ethylbenzene	None Detected	44.0 ppb
	Toluene	1.60 ppb	10.2 ppb
	Xylene	19.00 ppb	187.0 ppb
	MTBE	None Detected	None Detected
Trip Blank		None Detected	None Detected
Field Blank		None Detected	None Detected

A comparison of the 1990 and 1991 water quality assays indicates that there has been a significant decrease in BTEX concentrations. Interestingly, the levels of MTBE in MW-1 have increased since the last sampling. It is possible that the adjacent curb side stormwater catch basin is a conduit for contaminated surface waters from the highway and the on-site gasoline dispensing operations to enter the subsurface environment. We recommend that any future site water quality testing include sampling the storm drain system up-gradient and down-gradient of the Texaco Station.

The apparent decline in BTEX concentrations and the low monitor well PID head space readings would indicate the original source of contamination at the site has been successfully removed. However, because the concentration of BTEX in groundwater sampled at well MW-1 is still above the maximum allowable contaminant levels mandated by the Vermont Groundwater Protection Rules, we recommend a final water quality sampling round for the spring of 1992 to confirm that contaminant concentrations are at the site are on the decline and will eventually reach acceptable levels.

There is insufficient data to make any accurate determination of the hydrological conditions of the site. Hollow-stem drilling and soil sampling at the site and subsequent water level measurements do suggest that groundwater tends to follow the topography of the underlying bedrock.

As there are no bedrock wells proximal to the Railroad Street Texaco site and the on-site monitoring devices were restricted to the unconsolidated surficial deposits, there is no way to determine the degree to which the local bedrock aquifer was impacted by the previous petroleum release. It should be pointed out that PID testing along the bedrock outcroppings found along the Canadian Pacific Railroad right-of way (parallel to the southern margin of the site) found no detectable VOCs.

Based on the levels of contamination currently in evidence at the site and the site's continued use as a petroleum storage and dispensing facility, we would discourage any drilling or coring of the underlying bedrock as it could potentially provide an additional conduit for contamination of the bedrock aquifer. As the Village is served by a municipal water system, the potential presence of petroleum compounds in the bedrock aquifer does not appear to pose any immediate threat to human health or welfare.

If you have any questions or comments please contact me or Jeff Noyes at your convenience. Thank you for your patience.

Sincerely,

Michael K. Sparks
Hydrogeologist

MKS/kp

Enclosure

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

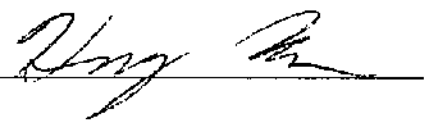
CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Wesco/St. Johnsbury Texaco
REPORT DATE: May 16, 1991 ANALYSIS DATE: May 15, 1991
SAMPLER: M.K. Sparks STATION: MW-1
DATE SAMPLED: May 3, 1991 REF.#: 19,523
DATE RECEIVED: May 6, 1991 TIME SAMPLED: 4:00 p.m.

Parameter	Minimum Detection Limit	Concentration (ug/L)
Benzene	2.	1,120.
Chlorobenzene	1.	ND[1]
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	462.
Toluene	1.	4,210.
Xylenes	5.	3,500.
MTBE	1.	25,300.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 4

NOTES:

1 None detected

Reviewed by 

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

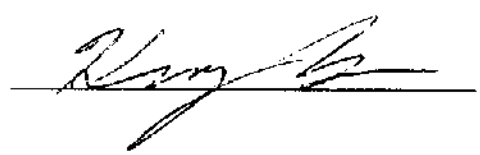
CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Wesco/St. Johnsbury Texaco
REPORT DATE: May 16, 1991 ANALYSIS DATE: May 15, 1991
SAMPLER: M.K. Sparks STATION: MW-2
DATE SAMPLED: May 3, 1991 REF.#: 19,524
DATE RECEIVED: May 6, 1991 TIME SAMPLED: 3:40 p.m.

Parameter	Minimum Detection Limit	Concentration (ug/L)
Benzene	2.	4.51
Chlorobenzene	1.	ND[1]
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	1.60
Xylenes	5.	19.0
MTBE	1.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 7

NOTES:

1 None detected

Reviewed by 

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

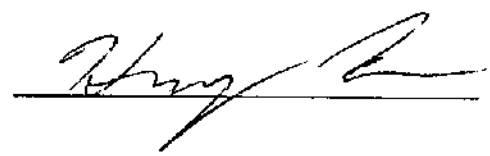
CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Wesco/St. Johnsbury Texaco
REPORT DATE: May 16, 1991 ANALYSIS DATE: May 15, 1991
SAMPLER: M.K. Sparks STATION: Trip Blank
DATE SAMPLED: May 3, 1991 REF.#: 19,525
DATE RECEIVED: May 6, 1991 TIME SAMPLED: 3:30 p.m.

Parameter	Minimum Detection Limit	Concentration (ug/L)
Benzene	2.	ND[1]
Chlorobenzene	1.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	5.	ND
MTBE	1.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

Reviewed by 

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Wagner, Heindel, and Noyes, Inc.
PROJECT NAME: Wesco/St. Johnsbury Texaco
REPORT DATE: May 16, 1991 ANALYSIS DATE: May 15, 1991
SAMPLER: M.K. Sparks STATION: Blank Field
DATE SAMPLED: May 3, 1991 REF.#: 19,526
DATE RECEIVED: May 6, 1991 TIME SAMPLED: 3:50 p.m.

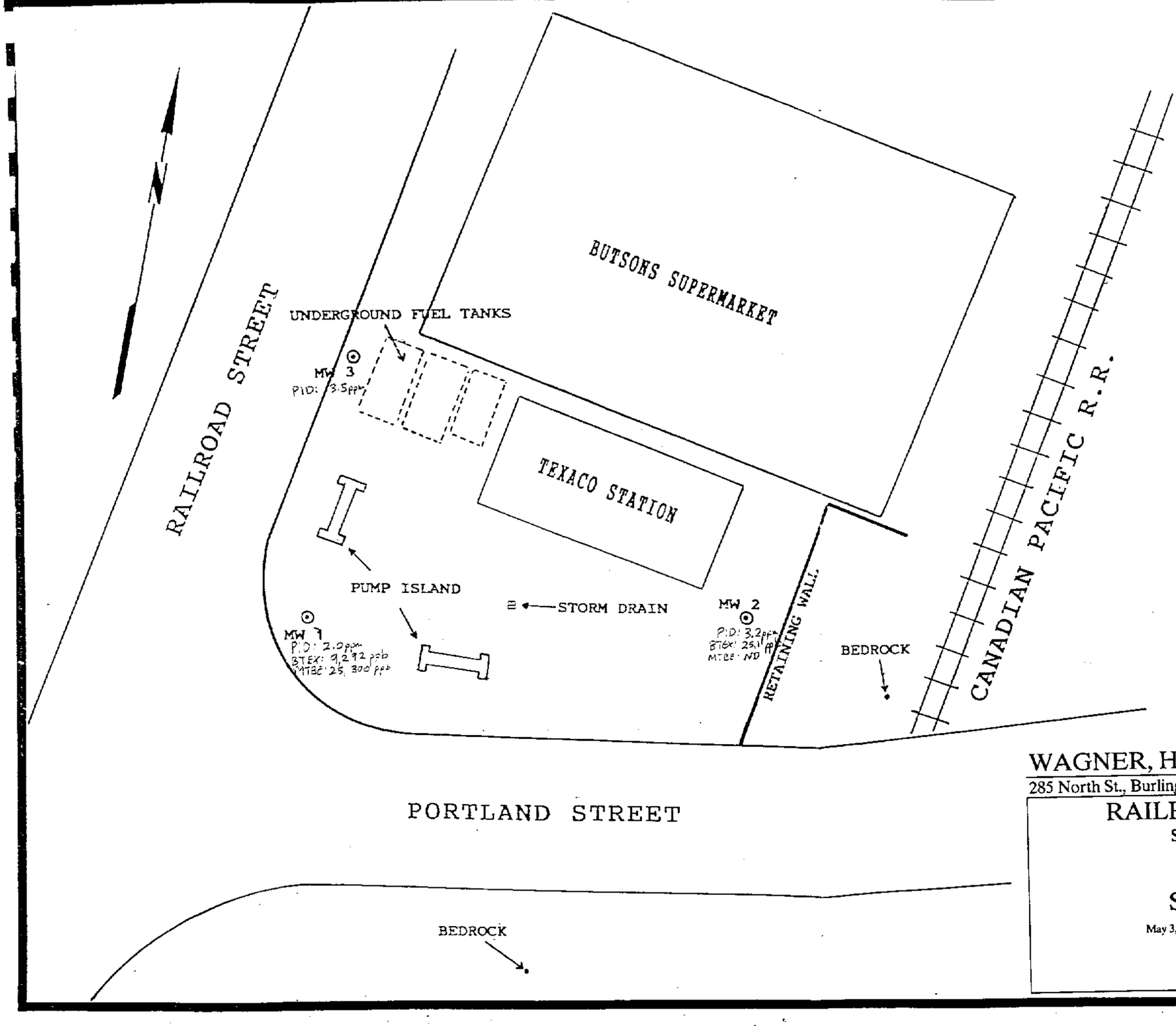
Parameter	Minimum Detection Limit	Concentration (ug/L)
Benzene	2.	ND[1]
Chlorobenzene	1.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	5.	ND
MTBE	1.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

Reviewed by _____



WAGNER, HEINDEL, & NOYES, INC.

285 North St., Burlington, Vermont 05401 802-658-0820

RAILROAD STREET TEXACO

ST. JOHNSBURY, VERMONT

SITE TESTING MAP

May 3, 1991 Monitor Well Water Quality and Vapor Testing

Drawn: MKS

Approved: JEN

DATE 8-7-91